Document Title	**SB6120-1.0.2.4-SCM01 Customer Release Notes**
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Revision History – see Workflow History for approvers and approval dates, and Notice for release dates

Rev	Notice #	Description	Author	Revision Date
X.1		SB6120-1.0.2.4-SCM01 Customer Release Notes	DiBenedetto / Armbruster	12/8/2009
X.2		Updated Operational Considerations	DiBenedetto	12/10/2009

1. INTRODUCTION

This firmware release is based on the SB6120-1.0.2.1-SCM00 GA Field Release of firmware.

2. PRODUCT(S)

SB6120, SB6120J, SB6120E

Note: Unless otherwise noted, all firmware Fixes and New Features affecting the complete SB6120 family will be identified using the generic ***SB6120* naming convention. Any product specific changes will be noted with the specific product name, i.e.; SB6120J or SB6120E.

3. RELEASE DATE

December 8, 2009 -- SB6120-1.0.2.4-SCM01

4. RELEASE TYPE

General Availability Release builds are designated with the "SCMxx" format. Engineering and Lab Trials are designated with the "ENGxx / LABxx format" and are ***not considered GA (General Availability) Releases.*** "SH" builds refer to images that have a shell capability for diagnostic and monitoring purposes. "NOSH" builds have this capability removed.

5. HARDWARE

SB6120

- **This hardware version incorporates support for:**
  - **Upstream 5-42 MHz**
  - **Downstream 91–1002 MHz**

SB6120J (Japan Variant)

- **This hardware version incorporates support for:**
  - **Upstream 5-65 MHz**
  - **Downstream 91–1002 MHz**

SB6120E (EuroDOCSIS Variant)

- **This hardware version incorporates support for:**
  - **Upstream 5-65 MHz**
  - **Downstream 91–1002 MHz**

Note: Dual Color (Blue) LEDs are now available on the latest production of SB6120 hardware. If you set a lab SB6120 unit with single color LEDs to act in Dual-mode, *the BLUE color is shown as "off"*.

6. FIRMWARE RELEASE NAME

SB6120 – SB6120-1.0.2.4-SCM01-NOSH.NNDMN.p7

SB6120J – SB6120-1.0.2.4-SCM01-NOSH.NNDMN.p7

SB6120E – SB6120-1.0.2.4-SCM01-NOSH.NNEMN.p7

7. OPERATIONAL CONSIDERATIONS

7.1. World-Wide Mode

The SB6120E supports Motorola's new "World-Wide" mode with dual certificate capability (BPI+), allowing the modem to register on a EuroDOCSIS or DOCSIS CMTS. In addition, the SB6120E with "World-Wide" mode enabled will scan for EuroDOCSIS-256QAM, EuroDOCSIS-64QAM, DOCSIS-256QAM, and DOCSIS-64QAM signals.

- **Enable World-Wide mode via TLV11 or SNMP using the following:**
  - cmFreqPlanType set to worldwideMode(3)
- **Enable World-Wide mode via the SB6120E Internal Configuration HTML page using the following:**
  - Access the SB6120E Internal Configuration HTML page via the local IP Address at 192.168.100.1
  - Select the *Configuration* Tab
  - Change *Frequency Plan* to **Worldwide Mode** via the pull-down menu
  - Save Changes

7.2. SNMP CPE Access Control

The SB6120 supports (and requires) the following per the CM-SP-MULPIv3.0 specification:

- **TLV55 SNMP CPE Access Control**

  If the value of this field is a 1, the CM MUST allow SNMP access from any CPE attached to it. If the value of this field is a 0, the CM MUST NOT allow SNMP Access from any CPE attached to it.

Type	Length	Value
55	1	0 (Disable)
		1 (Enable)

  The CM MUST disable SNMP access from CPEs connected to the cable modem unless this TLV is present in the config file with value equal to 1.

  ☞ ***Refer to SURFboard® Technical Bulletin 08-009 for SNMP CPE Access Control requirements utilizing TLV55.***

  ☞ ***Refer to SURFboard® Technical Bulletin 08-008 for SNMP NmAccess Control requirements.***

7.3. Capture Bandwidth Selection

The SB6120 supports two downstream capture bandwidth options, 81MHz *(Default)* and 96MHz; where the default value is 81MHz. Operators have the option of enabling the full 96MHz capture bandwidth by setting the *cmConfigTunerSpurAvoidanceMode* MIB Object to the proper value.

☞ Added the MIB Object *cmConfigTunerSpurAvoidanceMode*

- DESCRIPTION

  Setting this object to mode81MHz(0) selects 81MHz spur avoidance algorithm for the tuner to attain 81MHz Capture Bandwidth. ***(Default)***

  Setting this object to mode96MHz(1) selects 96MHz spur avoidance algorithm for the tuner to attain 96MHz Capture Bandwidth.

- **Note(s)**
  - A reboot is required for the changes to take effect. This includes modifications via SNMP or via TLV-11 sets in the Cable Modem Configuration File.
  - This feature functionality needs support from CMTS.

7.4. SURFboard MIB Package

It is recommended that you always run the latest Motorola SURFboard MIB Package (available on DigitalCM) to ensure you have access to the latest MIBs and documented support features. The current GA Release of the SURFboard MIB Package, ***SURFboard MIBs Version 1.23***, supports all features/functions contained in this firmware release.

8. UPDATES IN THIS RELEASE

8.1. 1.0.2.4-SCM01

8.1.1. Reference Code Merge

- This newest firmware release includes all fixes and enhancements available in the TI Reference Code drops up through v1.4.2.20. (cqvds00017476)

8.1.2. Features

- Added GUI and SNMP Log Messages for various CM restarts the unit could encounter. (cqvds00016226)
  - Cable Modem Reboot from GUI/Configuration page
  - Cable Modem Reboot from CLI
  - Cable Modem Reboot from SNMP
  - Cable Modem Reboot due to T4 timeout
  - Cable Modem Reboot from shell
  - Cable Modem Reboot due to power reset
  - Cable Modem Reboot due to MDD Loss
  - Cable Modem Reboot due to IP loss
  - Cable Modem Reboot due to partial service
  - Cable Modem Reboot due to bonding recovery
  - Cable Modem Reboot due to Software upgrade
- Updated how the *cmSnmpDisplayHtml* MIB object is handled, as the set value is not stored in non-vol. If the MIB is set to "false" via a config file, the user is unable to access the internal HTML pages when the modem is registered. However, if the modem goes through a full reset (or power on reset), this OID reverts back to "true" so the HTML pages are accessible up until registration time, helping installers and technicians troubleshoot registration issues. (cqvds00012806)
- The SB6120 upstream channel selection criterion was changed to conform to the DOCSIS 2.0 specification, so that when operating on a single upstream channel, the CM will select an ATDMA channel when available. (cqvds00017956)
- Customized support for IPv6/IPv4 stack on the SB6120. (cqvds00018472, cqvds00018473, cqvds00018474, and cqvds00018829)
  - Added the MIB Object *cmMotVendorMDDHonorIp*
    - DESCRIPTION

      0 – indicates that the device MUST honor the IP Mode MDD TLV transmitted by the CMTS on the access network.

      1 – indicates that the device MUST only attempt initialization IPv4 mode.

      2 – indicates that the device MUST only attempt initialization in IPv6 mode.

      3 – indicates that the device MUST attempt initialization using APM.

      4 – indicates that the device MUST attempt initialization using DPM.

      The default value for theMddIpModeOverride TLV is not specified.

      This value is stored in NVRAM"
- Improved the performance of the SB6120 Downstream FTP Speed Test Feature. (cqvds00019010)
- The SB6120 Downstream FTP Speed Test Application Counters will be cleared when a test is in progress. (cqvds00019037)
  - The SB6120 will now reset the counters *cmTestFtpTransferPayloadBytes*, *cmTestFtpTransferTotalBytes*, *cmTestFtpTransferElapsedTime,* and *cmTestFtpTransferThroughput* before starting the FTP test.

8.1.3. Defects Fixed

- The SB6120 modem gracefully recovers from a cable-cut when on an SCDMA upstream and the pre-equalizer is enabled. (cqvds00019368)

- SB6120 not rejecting the DBC-REQ containing redundant RCC/TCC parameters. The SB6120 will send the confirmation code "REJECT-ALREADY-THERE" if the DBC tries to move the CM to a channel it is already on. (cqvds00018478)
- When performing a MIB Walk, the SB6120 does not display all available Motorola MIBs. This issue is only seen when performing SNMPv1 queries (cqvds00018444)
- Available throughput using the SB6120 Downstream FTP Speed Test Feature (as described below in the 1.0.2.0-SCM03 release information) does not go beyond ~40Mbps. ***This issue has no impact on the normal operations and throughput of the SB6120***. (cqvds00016618)
- When an SB6120 is moved using DBC, it will not re-register on the new downstream until it is power cycled. (cqvds00019218)
- The SB6120 *cmTestFtpTransferStatus* MIB reported incorrect status during SB6120 Downstream FTP Speed Test. (cqvds00019498)
  - ☞ The MIB status will now show "*fileNotFound(550")*" for connection timeout errors.
- The SB6120 sends a *DBC-RSP* with wrong HMAC digest for the first *DBC-REQ*. (cqvds00019428)
- When communicating with a BSR 64000, the SB6120 fails to send a *DBC-RSP* when a *DBC-REQ* is received with an upstream change and a new SID. (cqvds00019325)
- Ping loss with when Ethernet connected to 10/100 switch or router interface. (cqvds00019333)
- Fixed an issue to ensure that once the SB6120 executes a successful DCC, the downstream frequency / channel ID and upstream frequency / channel ID are updated in the modem's diagnostic "Configuration" GUI page as well as the "Signal" GUI page. This ensures that when the modem is rebooted, it will come up with the latest details. (cqvds00019396)
- Intermittent reports where the SB6120 would suddenly enter into an unpingable state during normal operation. (cqvds00017879)
- Fixed an issue where the SB6120 could be stuck on the wrong downstream and not advance past the dhcp(d) registration process. (cqvds00019614, cqvds00018525)
- The SB6120 Capture Bandwidth was limited in firmware to 64MHz (edge to edge). The SB6120 hardware does support a Capture Bandwidth of 100MHz (edge to edge). This fix adds firmware support for the increased capacity. (cqvds00008299)
- The SB6120 will not complete registration if the *ifAdminStatus.5* is set as a MIB Object in the DOCSIS Configuration File. Instance 5 in 'ifAdminStatus.5' is for a USB interface and SB6120 does not support a USB interface, therefore it was rejecting the config file. (cqvds00019475)
- The SB6120 did not support the DHCPv6 reconfigure option. Enabling this option on the DHCP server (Cisco CNR 7.x) causes the SB6120 to fail registration in the IPv6 environment. (cqvds00019234)
- When an IP filter is applied in CM config file to USB interface (index 5), it appears to affect Ethernet (index 1) interface. (cqvds00019116)
  - ☞ Note: That some customers are using a single CM configuration file for different vendor devices; therefore, even without a USB Interface on the SB6120, it could happen that a filter for (ifIndex = 5) is present in configuration file for another vendor device.
- Fixed an issue where the SB6120 could hang after it reboots, following a software upgrade, with the Online LED blinking. The SB6120 needs a power reset to recover. (cqvds00019995)
- Fixed an issue where newer Apple Macintosh Systems stop passing traffic after coming out of the Hibernate/Sleep State. (cqvds00017216)
- Fixed an issue where the SB6120 stopped passing traffic when there are TCC (Transmit Channel Configuration) encodings and MTCM (Multiple Transmit Channel Mode) is disabled in REG-RSP-MP. (cqvds00016704)
- The SB6120 no longer reports a hardware "minor" version number in sysDescr or on the HTML pages. (cqvds00017253)

- The SB6120 had an issue during a DBC where it would range on the new upstream SID but try to process data flows on the old SID. (cqvds00016357)
- The SB6120 failed to update the Re-sequencing Channel List with DSID encoding when moving from one MAC Domain to another, causing the SB6120 to become un-pingable. (cqvds00017685)
- Fixed an issue where the SB6120 SNMP agent experienced memory leaks when processing multiple SNMP authorization failures. (cqvds00018345)
- Fixed an issue where the SB6120 would allow firmware updates over the CPE interface. (cqvds00017921)
- Fixed an issue where the *cmMotVendorMDDHonorIp* MIB object was not settable prior to cable modem registration. (cqvds00018829)
- Fixed an issue where setting the *cmTestFtpCommand* MIB object to Cancel when no test was running caused the SB6120 to reboot. (cqvds00018470)
- TFTP downloads failed during IPv6 provisioning. The SB6120 can now handle combinations of special characters in both IPv4 and IPv6 provisioning modes. (cqvds00018371)
- Fixed and issue where the SB6120 intermittently reset while performing speed tests when using a gateway between the SB6120 and PC. (cqvds00018809)
- IPv6 provisioning fails when the Syslog Server IP address is set to 0's, disabling and Syslog communications. (cqvds00019184)
- The SB6120 fails during Bonding Recovery, despite no traffic flowing through the CM and the Bonding Recovery MIBs set to default. (cqvds00019671, cqvds00019373)
- Fixed an intermittent issue where it was possible to corrupt the CM Flash during a firmware download. This issue can only occur when the CM is in Bonded Mode. (cqvds00019508)

KNOWN ISSUES AND/OR LIMITATIONS

- As the SB6120 is capable of utilizing a 1GHz downstream, the RCP (Receive Channel Profile) needs to be included in registration request. If the CM can handle frequencies up to 1GHz - it should inform the CMTS of this by including the 1GHz RCP in the registration request, otherwise the CMTS may not recognize that the CM can support up to 1GHz. (cqvds00011305)
- When the SB6120 is operating in DOCSIS 2.0 mode, the DHCP option 60 information contains the *vendor class identifier = "docsis2.0",* but contains no modem capabilities information. (cqvds00013992)
- The SB6120 will fail to re-register after being issued an Upstream DCC from an S-CDMA modulated upstream to either a TDMA upstream, or another S-CDMA configured upstream channel. A power cycle of the modem is required to recover this situation. (cqvds00015610)
- When the SB6120E is configured to operate in DOCSIS 1.0 mode with BPI enabled and the *cmDocsis30Capable* MIB object is set to false, it has been noted that the SB6120E may not complete registration. (cqvds00016908)
- The SB6120 does not immediately respond to SNMP polls during software download. There is a 15-to-20 second delay before SNMP queries are answered. (cqvds00010129)
- The SNMP Agent of the SB6120 does not return a correct error status when an invalid value is set for the snmpTargetAddrTagList. (cqvds00011375)
- In the SB6120 firmware release SB6120-1.0.1.3-SCM00, the Motorola development team resolved an issue where the SB6120 was not properly allocating a filename buffer to hold the filename of the firmware image. Because of this fix, when the SB6120 is running a firmware image older than 1.0.1.3-SCM00, and the requested image to upgrade to is newer than 1.0.1.3-SCM00; the SB6120 will perform a double-download to *self-correct the filename-buffer-allocation* issue. (cqvds00011307)
    - ***NOTE:*** This double-download issue is a one-time issue. Subsequent firmware upgrades after 1.0.1.3-SCM00 will not experience the double-download problem.

9. OLDER RELEASES

9.1. 1.0.2.1-SCM00

9.1.1. Features

- The SB6120 now supports enhanced Channel Bonding capabilities to support a mixed channel configurations available on some DOCSIS 3.0 capable CMTS'. Commonly referred to as 6-8-8-8 Channel Bonding, where the SB6120 locks on a primary channel (6 MHz) and secondary channels (8 MHz) each. (cqvds00015779)

9.1.2. Defects Fixed

- The SB6120 now handles on-the-fly downstream modulation changes smoothly, allowing the modem to recover/change without a power-on-reset. (cqvds00011567)
- Fixed an issue where the *vendor-class-data field* in the DHCPv6 solicit had an extra character appended. The CM sends a DHCPv6 Solicit message as described in [RFC 3315]. The Solicit message MUST include a Vendor Class option containing 32-bit number 4491 (the Cable Television Laboratories, Inc. enterprise number) and the string ***"docsis3.0"***. When a trace was taken of the SB6120 Solicit message, the vendor-class-data contained "docsis3.04". (cqvds00008063)
- During FTP performance testing over a 10 hour period, it was noted that the throughput dropped from 80Mbps to less than 10Mbps. (cqvds00016870)
- The SB6120 is now able to cleanly handle DHCP Server failover. Previously, the SB6120 would still send "DHCP Renew" requests to the Primary DHCP Server IP Address it was previously configured with instead of the Secondary DHCP Server IP Address. (cqvds00009252)
- When the SB6120 was configured to operate in Hybrid Dual mode, the SB6120 was not moving to the next Downstream upon receiving a RNG-RSP Abort. Changes were made to allow the SB6120 to scan both Annex-A and Annex-B carriers before aborting the process. (cqvds00016309)
- The SB6120 will now ignore unknown MIB variables included in the latest giCmConfig MIB. (cqvds00017120)
  - cmConfigCPEMacAddrAging
  - cmConfigGuiAdmin
  - cmConfigGuiRoot

9.2. 1.0.2.0-SCM03

9.2.1. Reference Code Merge

- This newest firmware release includes all fixes and enhancements available in the TI Reference Code drops through v1.2.3.51. (cqvds00016352, cqvds00015627)

9.2.2. Features

- Implemented an FTP client based application for downstream throughput measurement testing. This localized FTP test mechanism is configured and executed through the *cmTestFtpDownstreamSpeed* MIB. (cqvds00015282)
  - *cmTestFtpDownstreamSpeed* (Sample Configuration)
    - Set cmTestFTPServerAddressType to 1 <*ipv4*>
    - Set cmTestFTPServerAddress to 10.17.0.50 <*Server IP Address*>
    - Set cmTestFTpServerPort to 21 <*Server Port*>
    - Set cmTestFtpUserName to admin <*FTP Username*>
    - Set cmTestFtpPassword to motorola <*FTP Password*>
    - Set cmTestFtpFilename to tftpboot/file70m <*Filename of File to Transfer*>
    - Set cmTestFtpCommand to 1 <*Start the FTP Transfer (get)*>
      - cmTestFtpTransferStatus <*Status of the file transfer*>

- cmTestFtpTransferPayloadBytes <*Payload data bytes transferred*>
- cmTestFtpTransferTotalBytes <*Total data and control Bytes*>
- cmTestFtpTransferElapsedTime <*Transfer elapsed time*>
- cmTestFtpTransferThroughput <*Calculated throughput*>

- The following features and enhancements were inherited through the incorporation of the latest TI Reference Code Release 1.2.3.
  - TurboDOX™ support <see cqvds00011632>
  - LinkUp and LinkDown traps <see cqvds00012562>
  - Dynamic SAID support
  - DOCSIS Path Verify (DPV) support
  - Complete DOCSIS 3.0 implementation of *CM-STATUS* messaging
  - US-SG-RES support
  - SNMP Write-Access Control (TLV10) support
  - Packet Processor Filter Match Counters
- Enhanced support of packet forwarding filters per DOCSIS 3.0 MULPI Specification. (cqvds00012633)
- Added support for the TurboDOX™ bandwidth optimization feature. (cqvds00011632)
- New log messages were added for Partial Service Fallback and Recovery modes. (cqvds00014796)
  - *cmConfigPartialServiceAction* set to DOCSIS2.0 (Partial Service Fallback Mode)
    - Loss of any Secondary channel at the CMTS Event Log Message:
      "DS: Partial Service Fallback: MDD Lost: CM in DOCSIS 2.0 Recovery mode"
    - Restoration of the lost/disconnected Secondary Channel Event Log Message:
      "DS: Partial Service Recovery: CM in DOCSIS 3.0 mode"
  - *cmConfigPartialServiceAction* set to DOCSIS3.0 (Partial Service Recovery Mode)
    - Loss of any Secondary channel at the CMTS Event Log Message:
      "DS: Partial Service Fallback: MDD Lost: CM in DOCSIS 3.0 Recovery mode"
    - Restoration of the lost/disconnected Primary or Secondary Channel Event Log Message:
      "MDD Recovery following MDD loss"
- In response to customer requests, the SB6120 can now be configured to support pre-DOCSIS 3.0 default SNMP Access modes. For support of this feature, a new MIB object *(cmConfigDefaultSnmpAccess)* was developed. (cqvds00015156)
  - cmConfigDefaultSnmpAccess
    - ***Note:*** Setting this object to docsis30(0) disables SNMP access to the CM by ***Default*** unless the modem receives a configuration file with the proper NmAccess Settings as required in DOCSIS 3.0.

      Setting this object to docsis20(1) enables SNMP access to the CM by Default. A TLV55 or TLV11 entry for *docsDevNmAccessInterface* in the config file will override this MIB object setting.
- When the SB6120 receives a Cable Modem Configuration file with a MISSING or INVALID CVC, there is no LOG message posted to indicate the failure. The SB6120 Log Messages have been enhanced to add more details of the error. (cqvds13967)
  - [WARNING] [DOCSIS.SWDL(pid=258)]: SW DL is disabled!
  - ***[WARNING] [DOCSIS.SWDL(pid=258)]: Reason: Missing or Invalid CVC!***
- Enhanced the recovery mechanism of the SB6120 when changing from an S-CDMA upstream to an A-TDMA upstream frequency. (cqvds00015154)
  - Originally fixed in cqvds00012668.
- Added support for the *cmCarrierFrequencyOffset* MIB. (cqvds00016178)

- Enhanced overall security by preventing any firmware upgrades via the CMCI Interface. (cqvds00013638)
- Enhancements were made to the Worldwide Mode Change Scan Plan to allow for quicker channel acquisition. (cqvds00016090)
  - ☞ Changed Worldwide Scan Plan to:

Start Frequency	End Frequency	Step Size
405000000	863000000	1 MHz
93000000	404000000	1 MHz
405000000	863750000	250 kHz
93000000	404750000	250 kHz

- Enhanced support for how the SB6120 handles “white space” and “special characters” in the config file name. (cqvds00016250)

9.2.3. Defects Fixed

- SB6120 will not recover if soft booted or loses downstream with 10Mbps of traffic being generated via Ixia. (cqvds00012340)
- The SB6120E fails DOCSIS 1.0 registration when BPI is disabled. (cqvds00015500)
- Resolved and issue where the SB6120 would encounter *Ping Loss* between the CPE and CMTS while downloading a movie file from a portal web site. (cqvds00015878)
- When the SB6120 was operating in DOCSIS 2.0 fallback made, it would not correctly register on a downstream with a bad secondary after a DCC or downstream channel override. (cqvds00014435)
  - ☞ If a downstream frequency override, TLV1 or DCC is used to send the CM to a new downstream and the registration response contains secondary’s that are impaired at the CM, the CM will attempt to register in D2.0 mode on the next frequency that the CM tunes to.
- The SB6120 was incorrectly displaying and updating the *"Establish IP Connectivity using DHCP"* and *"Transfer Operational Parameters through TFTP"* status messages on the HTML GUI Pages. (cqvds00015396)
- The SB6120 did not completely support the use of DCC init-tech 1 when provisioned as a DOCSIS 2.0 device. (cqvds00015305)
- The SB6120 was including Receive Channel Profile (RCP) Encodings in the *REG-REQ-SF*, causing the Cisco CMTS to send a bonding REG-RSP when the CM was registered unbonded. (cqvds00015818)
- Bonding Recovery is stopped before sending Downstream DCC event status. (cqvds00015603)
- The SB6120 is unable to renew its DHCP lease (come up and online) with the Packet Processor enabled and the modem under heavy traffic. (cqvds00011066, cqvds00011068)
- SB6120 downstream TCP throughput drops significantly when also sending upstream TCP traffic in DOCSIS 2.0 mode. (cqvds00009499)
- Informational SNMP Management messages; linkUp, linkDown, coldStart, or Authentication traps are not generated when the modem boots, despite TLV11 for generating traps being defined in the Cable Modem configuration file. (cqvds00012562)
- The SB6120 has improved downstream performance when in DOCSIS 2.0 mode. (cqvds00009501)
- The SB6120 cannot recover without a power cycle after the CM changes from an SCDMA to ATDMA modulation profile. (cqvds00015154)
- The SB6120 will now register in channel bonded mode even in the absence of a TLV8 (*UsAmbiguityResolutionChannelList*) in the MDD messaging. (cqvds00015632, cqvds00015777)
- Disabling the local DHCP Server via the GUI does not work. (cqvds00011930)

9.3. 1.0.1.9-SCM00 (Not Released to General Availability)

9.3.1. Features

- No new features added in this release.

9.3.2. Defects Fixed

- Resolved an issue where an attached CPE device does not respond to a ping for some time after the SB6120 has completed registration with a Cisco CMTS in 8-8-8 Bonded Mode. (cqvds00015193)
- Fixed a situation where an SB6120's telnet/ping traffic stops due to a DSID sequence number being out of range. (cqvds00015495)

9.4. 1.0.1.8-SCM02

9.4.1. Features

- The SB6120 can be configured to accept DCC init-tech values 1, 2, 3, and 4 when the modem is registered in DOCSIS 3.0 Bonded Mode. For support of this feature, a new MIB object *(cmConfigDCCUpstreamDSBonded)* was developed. (cqvds00014305)
  - ☞ cmConfigDCCUpstreamDSBonded
    - ***Note:*** When setting this value to True(1), DCC init-tech level(s) 1,2,3, and 4 can be used to shift only the upstream when the modem is in Downstream Bonded Mode. Setting this value to False(2), prevents the SB6120 from acting upon DCC init-tech level(s) 1,2,3, and 4 when the modem is downstream bonded mode

9.4.2. Defects Fixed

- Resolved an intermittent issue where the SB6120 could not transmit RTPS Packets (causing a drop of voice packets in the upstream direction). (cqvds00014640)
- Resolved an issue where UCD changes issued to the SB6120 connected to a CMTS utilizing *Modulation Agility* may cause the SB6120 to eventually T4. (cqvds00015123)
- Restored support for the MIB Objects; cmRegularUserName and cmRegularUserPassword to control user control to the SB6120 Password Protected GUI. (cqvds00014881)
- The SB6120 inaccurately reports the values for *ifInOctets* and *ifOutOctets* on the Ethernet and HFC interfaces. (cqvds00014643)
- Fixed an issue where the SB6120 stayed *Online* with the CMTS but lost its IP Stack. The SB6120 could reboot at various intervals between 2 and 10 hours. (cqvds00014484)
- Fixed an issue where the SB6120 would fail to reinitialize the MAC Layer Processor after a DHCP Renew failure if no ToD Server is present in the DHCP response. (cqvds00014811)
- When the modem processes an MDD Timeout, that action will now be logged to the GUI as well as the docsDevEvText MIB Object. (cqvds00014864)
- Resolved an issue where a UCD change when equalization is on may cause the SB6120 to corrupt upstream bursts - leading to data loss, T3 timeouts, and eventually T4 timeouts. (cqvds00014970)
- After the loss of a downstream channel (channel shutdown for maintenance), the SB6120 could get stuck in init(o) when running BPI+. (cqvds00014190)
- The SB6120 will now accurately report the Hardware Version. Previous firmware was hardcoded to report Hardware Revision 1.0. (cqvds00014699)
- Fixed and issue where the SB6120E running in Worldwide Mode fails a downstream DCC from Annex-B to Annex-A. (cqvds00014012)
- MDD Timeouts were increased to prevent the SB6120 from resetting on a CMTS switchover due to loss of MDD messages on the secondary channels. (cqvds00014391)

9.5. 1.0.1.7-SCM00

9.5.1. Features

- No new features added in this release.

9.5.2. Defects Fixed

- Fixed an issue where the SB6120 would reject configuration files with unknown TLVs and not successfully register. Following the DOCSIS Specifications, unknown TLVs must be ignored during the initialization process and the Cable Modem should successfully complete registration. (cqvds00014442)

9.6. 1.0.1.6-SCM01

9.6.1. Features

- No new features added in this release.

9.6.2. Defects Fixed

- Fixed an issue where the SB6120 would incorrectly report the Downstream Frequency in Signal page of the HTML GUI. (cqvds00011478)

9.7. 1.0.1.5-SCM01

9.7.1. Features

- The SB6120 now supports the following MIB to enable a Full "power on reset" when the modem is reset via a DOCSIS T4. (cqvds00011668)
  - ☞ cmConfigFullResetOnT4
    - ***Note:*** Setting this value to True(1) causes the modem to perform a full reset on a T4 Timeout condition. Setting this value to False(2) will only perform a re-initialize MAC on a T4 Timeout condition. Setting this value to True(1)could potentially cause a loss of service on devices with LAN and Telephony support.
- The SB6120 now supports the following MIB required for some MSO Back-Office support. (cqvds00013104)
  - ☞ cmCfgNetAccessCtrl
- The SB6120 now supports the following MIB required for some MSO Back-Office support. (cqvds00013105)
  - ☞ cmCfgMaxCpe
- The SB6120 now supports setting up to "64" Favorite Frequencies. Enhancements have been made to add three new banks of 16 addresses each. The favorite frequencies can be configured using the following MIBs. (cqvds00013530)
  - ☞ cmFreqCustomList
  - ☞ cmFreqCustomListBank2
  - ☞ cmFreqCustomListBank3
  - ☞ cmFreqCustomListBank4

9.7.2. Defects Fixed

- Fixed an issue where the SB6120 would incorrectly report values when polling the *sysObjectID* MIB object. (cqvds00012533)
- When reading the *ifSpeed MIB*, the SB6120E incorrectly reports downstream speeds when registered bonded in EuroDOCSIS. (cqvds00010449)
- Fixed an issue where the SB6120's DHCP Option 43 values were inconsistent, not matching the values reported in the *sysDescr* MIB. (cqvds11040)
- The SB6120 Configuration HTML Page (Frequency Plan) option for "Hybrid Dual" Mode now matches the updated *"Worldwide"* mode. (cqvds00009927)
- The SB6120 will now support provisioning with special characters in configuration-file name. (cqvds00013278)
- Fixed and issue with the SB6120 when connected to the Motorola BSR 64000 and the TX32 Downstream Interface where the SB6120 experienced excessive delay in processing data transmissions after a lost channel is restored on the TX32. (cqvds00012669)

- Fixed an issue where the SB6120 would set the TFTP Server IP Address to "255.255.255.255" if the DHCP Option 66 field was set to a hostname or FQDN. This release will now use the DHCP Offer's *siaddr* field as the TFTP Server IP Address regardless of the DHCP Option 66 value. (cqvds00013913)
- The SB6120 was unable to completely remove multiple IP, NmAccess, or LLC filter. When a customer attempts an *SNMP destroy(6)* of all the filter table entries, the last table entry is unable to be destroyed and a MIB Walk shows an error reading the table entry. You were able to destroy the table entries by destroying the filters in "last to first" order. (cqvds00013782, cqvds00013900)
- Resolved a cosmetic issue where the SB6120 reports an extra channel in the bonding group in the docsIfDownstreamChannelEntry table. For example, if the bonding-group has two channels, the docsIfDownstreamChannelEntry will contain three entries. (cqvds00011047)
- Fixed an issue where the SB6120 intermittently fails to respond to Pings or SNMP Queries after a sudden/large change in the downstream RF signal level. (cqvds00013259)

9.8. 1.0.1.4-SCM03

9.8.1. Features

- Partial Service Workaround for Motorola SB6120 modems as documented in SURFboard® Technical Bulletin
  STB# 09-003 has now been implemented. (cqvds00009578, cqvds00012148, cqvds00010884, cqvds00011889, cqvds00011374, cqvds00012857, cqvds00012858)
- The SB6120 will now use DHCP option 66 as the TFTP Server name if that option is present and the "siaddr" field is absent in the cable modem DHCP Offer. (cqvds00012187)
- The SB6120 now supports the following MIB to enable/disable the Packet Processor Acceleration (Texas Instrument's Session Router Technology). The default setting for this object is "true" and any change to this setting will be stored in NVRAM: (cqvds00010766)
  - ☞ modemCmTurboDoxEnable
    - ***Note***: The *modemCmTurboDoxEnable* MIB object currently only controls the enabling/disabling of the Packet Processor Acceleration and not the TurboDOX™ bandwidth optimization feature. TurboDOX will be added in a future release of SB6120 firmware and will be controlled by this MIB object.
- Support has been added to allow the setting of a Username/Password for the internal HTML pages via TLV11 configuration file settings or SNMP sets; utilizing the following Motorola Private MIB objects. (cqvds00010971)
  - ☞ cmRegularUserName
  - ☞ cmRegularUserPassword
- Support has been added to enable/disable access to the SB6120 internal HTML pages via the HFC interface using TLV11 configuration file settings, or SNMP sets; utilizing the following Motorola Private MIB objects. (cqvds00013314)
  - ☞ cmConfigGuiHfcAccessEnable
- The SB6120 now supports the following MIBs and the reporting of the ethernet port state. (cqvds000009874)
  - ☞ ifSpeed
  - ☞ dot3StatsDuplexStatus

9.8.2. Defects Fixed

- Fixed an issue where the newly implemented *Bonding Recovery Idle Checking* was not working as designed, failing to count packets processed by the Packet Processor as well as packets processed through non-Packet Processor data paths. (cqvds00013586)
- Fixed an issue where the SB6120 Link LED did not blink with the packet processor enabled and the CM passing UDP or TCP traffic. (cqvds00013588)

- When the SB6120 was performing bonding recovery after secondary downstream channels were reconnected on the Cisco CMTS, the SB6120 sometimes registers as a non-bonded device even though the SB6120 sent a bonding REG-REQ message. (cqvds00013409)
- Fixed one scenario for SB6120 Partial Service support on the DOCSIS 3.0 Cisco CMTS. (cqvds00013410)
  1. Sometimes the CMTS ignores the CM-STATUS from the CM when a secondary downstream channel is lost. For partial service handling, the CM sends a CM-STATUS when the MDD is lost for a secondary channel.
  2. The expected CMTS behavior when CMTS does not support partial service is for the CMTS to T4 or Ranging-Abort the CM. However, on the Cisco DOCSIS 3.0 CMTS, the CMTS would occasionally ignore the CM-STATUS message. The effect of this is that the CMTS would be unaware that one of the secondary downstreams providing service to the CM was not working and the CMTS would send data on that downstream that the CM would never receive.
  3. The fix/workaround is to have the CM reboot itself instead of sending the CM-STATUS in this case.
- An issue was resolved in which an SB6120 would fail to recover (re-register online) on a Cisco uBR10k when issuing a *"clear cable modem xxxx.xxxx.xxxx reset"* command or disconnecting/reconnecting the coax cable. (cqvds00012461, cqvds00012457)
- An attached CPE can now access the internal HTML pages of an SB6120 that has been issued an HFC IP address in a 192.168.x.x network space. (cqvds00012727)
- A power cycle of the SB6120 is no longer required to recover a modem that has been moved from an S-CDMA upstream to an A-TDMA upstream frequency. The upstream channel-type change now occurs without issue. (cqvds00012668)
- An upstream dynamic channel change (DCC) utilizing “init-tech 0” is now supported on an SB6120 operating in downstream bonded mode. (cqvds00011588)
- Small packet performance has been improved on an SB6120 that has the Packet Processor capability enabled. (cqvds00012864 and cqvds00011069)
- The SB6120 will now accept a configuration file that has a filename containing a “white space”. (cqvds00009896)
- The following MIB objects are now supported in the SB6120. (cqvds00012437)
  - dot3StatsCarrierSenseErrors
  - dot3StatsFrameTooLongs
- An issue has been resolved in which an SB6120 queried via SNMP for the contents of its “docsDevEventText” table would return hex values instead of ASCII text. (cqvds00009843)
- A fix has been implemented for an issue where the SB6120 may intermittently fail a firmware upgrade when a user is surfing during firmware upgrade process. (cqvds00012492)
- Support for firmware download via the ethernet interface has now been removed. (cqvds00010131)
- Access to the internal HTML pages of the SB6120 may have been intermittently unsuccessful when using the cable modem’s internal 192.168.100.1 address. This issue is now resolved. (cqvds00013126)
- A session timeout of three seconds has been implemented on an SB6120 with Packet Processing enabled. (cqvds00012130)
- An issue has been fixed, in which under certain lab conditions, a continuous 40 Mbps stream of small packets on the downstream could cause the SB6120 to crash. (cqvds00011216)
- A change has been added so that in the MSO customized GUI implementation, the HTML pages will now report the upstream frequency being used and the power being attempted while upstream ranging is in progress. (cqvds00012533)

9.9. 1.0.1.3-SCM00

9.9.1. Features

- The SB6120 now supports the following MIBs and the reporting of pre-equalization coefficients: (cqvds00010609, cqvds00011294)
  - docsIfCmStatusEqualizationData
  - docsIf3CmStatusUsEqData

9.9.2. Defects Fixed

- The SB6120 can now process a DSA that is sent as two parts – one part to create the service flow and a second part to make it active. Prior to this change the SB6120 would respond to the DSA with a Confirmation Code = 7 (CC_REJECT_SVCFLOW_EXISTS) message. (cqvds00010694)
- A full reboot upon a loss of DHCP will now occur (previously the SB6120 did a MAC-REINIT only). (cqvds00009841)
- Under certain conditions, a small percentage of SB6120 did not recover after removing all of the downstreams, and then reconnecting three of them (including the primary). This was caused by the SB6120 not fully clearing out information from the previous registration. A fix was implemented to clear out all information concerning the previous primary and secondary channels. (cqvds00011579)
- The SB6120 will now support up to 64 characters when using the docsDevSoftwareFilename OID or TLV9 configuration file statement (Software Upgrade Filename). (cqvds00011307)
- An issue was resolved where docsDevFilterLLCIfIndex returned an incorrect default value of "0" or "all interfaces". The correct default value of "1", for the ethernet interface, is now implemented. (cqvds00011308)
- The SB6120E, running in Worldwide mode, will now tune to a downstream frequency designated by a TLV1 statement in the cable modem configuration file. (cqvds00011425)
- A power-on-reset is no longer required to recover from a CMTS initiated cable modem reset (clear cable modem reset) command. (cqvds00011872)
- Resolved a DOCSIS 1.0 BPI failure with the SB6120E running in Worldwide mode attempting to register on a DOCSIS CMTS. (cqvds00011608)
- A BPI+ issue on the SB6120E running in Worldwide mode (Dual Certificates) was fixed, in which the SB6120E would fail BPI+ on it's initial registration attempt on a DOCSIS CMTS and require a subsequent reboot in order to register successfully. (cqvds00011477)
- The SB6120 under a high upstream load no longer fails to respond to an upstream DCC on the BSR 64000 when performing a DOCSIS 2.0 upstream DCC command on the CMTS (no init-tech or init-tech 4). (cqvds00007813)
- The SB6120 internal HTML pages have been updated to remove information irrelevant to the SB6120 hardware platform. (cqvds00011257)
- Added additional changes to a specific MSO customized GUI implementation. (cqvds00011295)
- The SB6120E, configured for Worldwide mode, no longer requires two scans of the "last know good downstream frequency" prior to getting FEC Lock on that downstream frequency. (cqvds00011480)
- The SB6120 now properly reports in a CM-STATUS message the loss of the Secondary Downstream when it is lost a second time. (cqvds00011665)

9.10. 1.0.1.2-SCM00

9.10.1. Features

- N/A

9.10.2. Defects Fixed

- The SB6120J fails to reregister after receiving an Upstream Channel Change from Mac_Domain_1 to Mac_Domain_2 due to an upstream disconnect and a T4 timeout. (cqvds00011634)

- The SB6120 was losing IP connectivity after being upgraded to v1.0.1.1-SCM02. A *temporary fix* is to disable the SB6120 Packet Processor Acceleration using Texas Instrument's Session Router technology. (cqvds00012004)

9.11. 1.0.1.1-SCM02

9.11.1. Features

- Implementation of Packet Processing Acceleration using Texas Instrument's Session Router technology. This enables hardware support of fast packet routing (Packet Session Router), greatly enhancing the cable modem's ability to route small packets at high speeds.

9.11.2. Defects Fixed

- An issue was resolved where the SB6120 could get into a DHCP(ack) state after a CMTS reset, causing the modem not to register. (cqvds00011097)

9.12. 1.0.1.1-SCM01

9.12.1. Features

- Added support of new HRC Channel Plan frequencies to the downstream channel-scanning algorithm. (cqvds00009207 and cqvds00010972)
- The SB6120 now supports the UCC feature when operating in non-bonded mode. (cqvds00007547)
- The DCC feature set is supported for upstream channel changes when operating in a non-bonded environment. (cqvds00008635)
- The SB6120E is designed to require the Euro-DOCSIS CVC in support of secure download of SB6120E images (as designated by the **.NNEMN.p7* file extension). This also resolves an issue where SCD could fail on modems loaded with dual certificate chains due to a CVC discrepancy. (cqvds00010237 and cqvds00008923)
- Enhancements were made in that if there are no *docsDevNmAccess* table entries in the config file, the SB6120 will not allow SNMP access.
- The SB6120 now supports (and requires) the following per the *CM-SP-MULPIv3.0* specification:

  TLV55 SNMP CPE Access Control

  If the value of this field is a 1, the CM MUST allow SNMP access from any CPE attached to it. If the value of this field is a 0, the CM MUST NOT allow SNMP Access from any CPE attached to it.

Type	Length	Value
55	1	0 Disable
		1 Enable

  The CM MUST disable SNMP access from CPEs connected to the cable modem unless this TLV is present in the config file with value equal to 1.
- The following DOCSIS 3.0 MIB tables are supported. (cqvds00010104)
  - docsIf3UsChExtTable
  - docsMcastDsidPhsTable

9.12.2. Defects Fixed

- The SB6120 will now properly enforce "*docsDevNmAccessInterfaces*" settings. Previously, when the SB6120 received a config file with the "*docsDevNmAccessInterfaces*" defined, the ethernet interface setting was ignored, and SNMP access was always disabled on the ethernet interface. (cqvds00010432 and cqvds00009943)
- A SID issue which occurred when the SB6120 was operating in non-bonded mode with BPI+ enabled, caused the modem to get into a "reject(pk) state was resolved. (cqvds00009521)
- The SB6120 no longer fails downstream and upstream DCC when in DOCSIS 2.0 mode with BPI+ enabled. (cqvds00009498)

- During a Configuration File initiated upgrade, the SB6120 now reports the "*docsDevSwCurrentVersion*", as well as all other values in the "*docsDevSoftware*" MIB tree when polled. (cqvds00010838)
- Additional events are now displayed in the SB6120 Events log. (cqvds00007963 and cqvds00008563)
- The SB6120E will no longer reboot when a DCC is initiated by a BSR 64000. There was an issue with the SB6120 when using Upstream (US) or Downstream (DS) static load balancing on the BSR 64000. The SB6120 was resetting upon sending a DCC-reject response to a DCC move with an "init-tech 0" requested received from the CMTS. (cqvds00009593)
- The following intermittent issues where the SB6120 was unable to channel bond or could get stuck in init(rc) on the BSR 64000 (Release 4.2.3.01p14) are now resolved:
  - The SB6120 would not send a REG-ACK or the BSR 64000 could not see the ACK as the SB6120 was already starting the BPI process and was sending encrypted messages to the CMTS. (cqvds00010358)
  - REG-ACK issues believed to be linked to an intermittent registration failure of the SB6120 on a BSR 64000 TX32 card where a small percentage of CMs did not register after image upgrade or a cable modem reset via SNMP. (cqvds00009300)
- With Upstream Static Load Balancing configured on the BSR 64000, the SB6120 now moves to a different upstream using DCC with init-tech 0. (cqvds00009563)
- The SB6120 no longer loses IP connectivity after DCC or UCC and BPI/BPI+ is enabled. (cqvds00009625, cqvds00009659)
- SB6120 with dual certificates will now remember changes to the Favorite Frequency (North American Channel Plan) when set via SNMP or GUI. (cqvds00009721)
- The following fixes have been implemented in the SB6120 HTML pages:
  - Display ranging status on the Signal HTML page. (cqvds00008508)
  - Downstream frequency lock status now reported in Signal web page. (cqvds00010112)
  - USB references have been removed from the Help page. (cqvds00010915)
  - On SB6120 non-E models, we now disallow selection of Worldwide Mode from the Configuration HTML page. The ability to change this via SNMP has also been removed. (cqvds00010492)
- Added additional support for a specific MSO customized GUI implementation. (cqvds00010663)
- The following three IGMP issues are now resolved:
  - SB6120 does not pass IGMP V2 membership query messages. (cqvds00010009)
  - SB6120 failed to forward IGMP Membership Reports received on its RF interface to its CPE interface. (cqvds00009954)
  - SB6120 may erroneously clear an entry from "IgmpCacheEntry". (cqvds00009955)
- Improved downstream and upstream performance on 64 byte packet UDP traffic. (cqvds00008023 and cqvds00009389)
- The following SB6120 issues with "*docsDevFilterIpTable*" entries have now been resolved:
  - The SB6120 gets a configuration file with multiple filters, and instead of applying only the first matching filter (in index order), the modem checks every matching filter. This could cause no traffic to be forwarded. (cqvds00010567)
  - Throughput issues were seen when an SB6120 loaded a configuration file containing multiple filter entries. (cqvds00008942)
- The SB6120 no longer ignores the TLV38 (Disable 2.0 mode) setting in the cable modem configuration file. (cqvds00007812)
- A forward or back slash is now supported in the TLV9 configuration file statement when setting a directory path. (cqvds00008927)

- SB6120 no longer reboots when on shared DS channels when there is bonded data passing to an SB6100 (which uses Motorola Proprietary DCB). (cqvds00008215)
- Fixed an issue where a Range Response with an US override, but no DS change would cause the SB6120 to reset scanning. (cqvds00011093)
- Multiple SNMP Get-Bulk and large instance ID issues resolved. (cqvds00008550 and cqvds00008553

9.13. 1.0.0.7-SCM00

9.13.1. Features

- Per MSO customization request, we have now added an alternative method of supply the Cable Modem Code Verification Certificate (CVC) for software downloads. (cqvds00009010)
- Added support for the following SNMP MIB Objects. (cqvds00009575)
  - SQETestErrors
  - CarrierSenseErrors
  - FrameTooLong
- In support of future MSO GUI customization requests, a new MIB object was introduced to support the selection of an MSO specific GUI. The new MIB Object ***(cmConfigGUIType)*** is part of the cmConfigMIB. (cqvds00009785)
- Added support for specific MSO customized GUI implementation. (cqvds00010573, cqvds00010019, cqvds00009948, cqvds00010112 and cqvds00010114)

9.13.2. Defects Fixed

- Fixed an issue where the SB6120 drops all IGMP Query messages if an attached CPE (host) left one Multicast Group and the CPE is active among the multiple IGMP groups. (cqvds00009670)
- In support of the alternative method of supplying the Cable Modem Code Verification Certificate (CVC) for software downloads (cqvds00009010), priority needed to be set to the alternative method vs. standard DOCSIS TLV21 and TLV9 settings. (cqvds00010488)
- The SB6120 allowed some SNMP MIB objects *(ipForwarding and ipDefaultTTL)* to be set with out of bounds values. (cqvds00008499)
- When a SB6120E was configured in *Worldwide Mode* and it received a configuration file with a TLV1 (Downstream Channel) entry, moving the cable modem to another CMTS, the modem uses North American modem configuration parameters. (cqvds00009861) and (cqvds00010133)
- The SB6120 will now successfully register on the BSR 64000 *(Release 4.2.3.01p14)* when provisioned with a DOCSIS 1.0 configuration file and Baseline Privacy (BPI) enabled. (cqvds00010044)
- The SB6120 now prevents SNMP Access via the Ethernet Interface (192.168.100.1) after the CM successfully registers. (cqvds00010080)
- The SB6120 may skip over Favorite Frequencies when any of the values are repeated in the Favorite Frequency Lists. (cqvds00009995)
- The SB6120 had issues registering in DOCSIS 3.0 Bonded Mode on the Cisco 10K when it received multiple advertisements of Primary Capable Bonding Channels. The SB6120 now collects all the MAC domain messages in the MDD database during initialization. (cqvds00009892)
- The SB6120 can now successfully register in bonded mode when all 32 Upstream (US) CMTS channels are enabled in a MAC Domain (4 Logical channels on each of the 8 US ports). (cqvds00009952)
- The SB6120 should not channel bond when cmDocsis30Capable set to false. (cqvds00010206)
- Fixed an issue where the SB6120s 'Send' and 'Receive' LEDs do not blink when a firmware update is performed via the cable modem configuration file, the LEDs do not blink per DOCSIS specification. (cqvds00009564)

9.14. 1.0.0.6-SCM01

9.14.1. *Not Approved For Customer GA Release*

9.15. 1.0.0.5-SCM00

9.15.1. Features

- The SB6120 now has the ability to be configured to advertise as a DOCSIS 2.0 capable device in the DHCP Option 60 (Vendor Class Identifier) field. This option would allow the MSO to deploy a DOCSIS 3.0 modem in a system not quite ready to provision DOCSIS 3.0 modems. A new MIB object *(cmDocsis30Capable)* was added to the giCmConfig private MIB. (cqvds00009305)
- Added support for the ipNetToMediaTable MIB objects. (cqvds00009406)

9.15.2. Defects Fixed

- The SB6120 will now save the cmSnmpDisplayHtml MIB object to NonVol, which causes the CM to display only the HTML help page. (cqvds00009302)
- Fixed an issue where the SB6120 failed to register with a DOCSIS 1.0 COS (Class of Service) configuration file and BPI (Baseline Privacy) enabled. (cqvds00009495)
- In **Worldwide Mode** *(GUI Option Hybrid Dual)*, SB6120s with dual certificates will switch keys/certificates automatically when changing frequency plans. (cqvds00008862)
- The SB6120 will retry its favorite frequencies upon the loss of RF or a T4 timeout and if secondary channels are not available, the SB6120 will register in DOCSIS 2.0 mode. (cqvds00009637)

9.16. 1.0.0.4-SCM00

9.16.1. Features

- Added support for TLV54, *SNMPv3 Access View Configuration*. (cqvds00008562)
- The SB6120 now waits 20 seconds instead of 10 minutes between TFTP retries on invalid/failed Config File download. (cqvds00009319)

9.16.2. Defects Fixed

- Ranging override restarts scan plan, causing CM to get stuck in a loop if it does not register on the override frequency. (cqvds00009261)
- When polling the cmStandbyMode MIB, the SB6120 will always report false. (cqvds00009212)
- When BPI+ is enabled in the CM Config file, and the SB6120 shows online(pt) state on the CMTS, the GUI “index.htm “ page still shows "Initialize Baseline Privacy" as "Skipped", when it should be "Done". (cqvds00008756, cqvds00008769)
- The SB6120 GUI page should not have the "Reset All Defaults" or "Restart Cable Modem" buttons accessible from HFC side. (cqvds00008757)
- The "Online" LED is flashing when registered with CMTS. Logs show a delayed Time of Day (ToD) completion but modem is fully registered. (cqvds00008768, cqvds00008794, cqvds00009346)

9.17. 1.0.0.2-SCM00

9.17.1. Features

- Added support for the SB6120E to support both EuroDOCSIS and DOCSIS BPI+ certificate key exchange. (cqvds00008755)
- Hybrid channel plan now supports downstream frequencies from 93 MHz to 999 MHz. (cqvds00008702)
- The SB6120E GUI now supports the Hybrid Channel Plan. (cqvds00008852)
- Support for the Motorola private MIB cmFreqCustomList has been added to allow the setting of an additional 16 favorite frequencies. (cqvds00008904)

- The SB6120 now allows cmConfigFreq MIB objects to store frequencies up to 1GHz. (cqvds00009150)
- In order to support higher downstream frequencies, the SB6120E continues to scan in 250 KHz steps from 860 MHz to 1GHz after the legacy North American or European scan plan is complete. (cqvds00009009)
- Support has now been added for the docsIfSigQSignalNoise OID. (cqvds00008909)

9.17.2. Defects Fixed

- Resolved an issue where after successfully setting some objects in the CM-CONFIG-MIB, querying the same OID may return a "no such instance" message. (cqvds00008531)
- Previously, under some conditions setting cmFreq1, cmFreq2, and cmFreq3 could prevent the SB6120 from scanning additional downstream frequencies. (cqvds00009112)
- The SB6120 modem will now process upstream UCDs using the following logic: The modem will build a list of available UCDs and attempt to register on the cached UCD first. If that channel is not available or there is no cached UCD, the modem will first select an A-TDMA/S-CDMA channel, next an M-TDMA channel, and finally a TDMA channel. (cqvds00008046)
- docsDevSwCurrentVers now properly reports the firmware version and build number. (cqvds00008764)
- Resolved typographical errors found in the event log message for "DHCP Renew - lease parameters modified". (cqvds00008201)
- The SB6120 now uses the default docsDevFilterIpIfIndex of "1" (previously it was "0") to ensure compatibility with a provider's existing IP Filter implementation in CM configuration files. (cqvds00008013)
- An issue has been fixed where an SB6120 may not re-register upon loss of a downstream. (cqvds00008894)

9.18. 1.0.0.1-SCM00

9.18.1. Features

- Support added for a firmware check to prevent newer hardware from downloading older incompatible firmware. (cqvds00008628)
- Added Euro Bonding and Hybrid support. The CM can now become operational using Euro RCP. In addition, the SB6120E with Hybrid mode enabled will scan for Euro-256QAM, Euro-64QAM, US-256QAM, and US-64QAM. (cqvds00008588)

9.18.2. Defects Fixed

- none